ABSTRACT

TITLE: A study of the outcome of post operative patients on ventilators**.**

BACKGROUND AND OBJECTIVES: Management of mechanical ventilated post-surgical patients in Intensive Surgical Care Unit needs an interdepartmental disciplinary approach by surgeon, anesthetist and paramedical team. Various factors like respiratory, surgical and other hemodynamic factors play an important role in the outcome of mechanically ventilated patients (ISCU). There are various complications of mechanical ventilation. Post-operative wound infection, sepsis and post-operative respiratory complications are the most common complications in the peri and post-operative period. Post-operative respiratory complications is the second commonest cause for patients mortality, wound sepsis being the primary cause. Respiratory failure after general anesthesia and tracheal intubation has been shown to be one of the most meaningful factors associated with poor patient outcomes leading to longer hospital stay, increased expenses and increased thirty day mortality. Presently the need of the study is to reduce the use of ventilator in the post-operative period and timely assessment and management of mechanical ventilated patients and to identify the effects of surgical factors in determining the outcome of mechanical ventilated patients, which will in turn help in the planning of proper management. Our study aims to assess the patient factors leading to mechanical ventilation in emergency and elective procedures, to study about the modes of mechanical ventilation needed and to assess the incidence of complication and mortality of patients on mechanical ventilation

TYPE OF STUDY: Observational (prospective) study

METHODOLOGY: This will be a hospital based time bound study. All those cases which satisfy the inclusion criteria will be included in this study.All patients will be taken into the study after obtaining written informed consent.all the patients who fit into the criteria will be

done routine blood investigations like hemoglobin, hematocrit, liver function test, renal function test, serum electrolytes and ABG. Serial bedside Chest X ray and ecg will be done and all the necessary parameters were serially recorded.

RESULTS:A total of fifty patients were studied which included in our study with age distribution ranging from 21 to 78 years, with 5(10%) of age group 21 – 30 years, 5(10.1%) of age group 31 – 40 years, 6(12%) of age group 41 – 50 years, 17(34%) of age group 51 – 60 years, 14(28) of age group 61-70 and 3(6%) of age group 71-80 with a mean ± S.D of 49.5 ± 14 years . The sex distribution pattern in our study included 36(72%) males and 14 (28%) females. The different factors that correlated with increased risk of mortality include Patient's age >50 years (P=0.04), conditions that cause septicemia such as hollow viscus perforation and bowel gangrene (P=0.03), emergency surgery (P=0.04 vs P=0.21 in elective surgery), risk factors such as smoking and alcohol combined when compared with individual risk factors (P=0.04 vs P=0.07), co morbid illness such as diabetes mellitus, systemic hypertension, coronary artery disease and chronic kidney disease combined when compared with those patients with nil comorbid illness(P=0.031 vs P=0.124), prolonged intra operative course, i.e. more than 4 hours when compared with surgery less than 2 hrs (P=0..47 vs P=0.087), increased duration of patients on ventilator upto the time of weaning, i.e. more than 36 hours (P=0.043 vs P=0.097), metabolic acidosis and hypotension requiring inotropic support (P=0.039), new onset post-op complications like acute kidney injury, pulmonary embolism and diabetic ketoacidosis (P=0.039). The factors which did not have a bearing on the mortality of the patient include, mode of ventilation such as ACMV and SIMV(P=0.054 and 0.089), compartmental classification of surgical procedure such as abdomen, head and neck, soft tissue of lower limbs,etc (P=0.061, 0.092, 0.094). The various cause of death include septicemia (24%), septic shock (4%),

Pneumonic consolidation and acute pulmonary embolism (2%), acute exacerbation of chronic kidney disease (2%), metabolic acidosis (4%), persistent hypotension (2%), combined acute kidney injury with persistent hypotension(2%)

CONCLUSION: Septicemia, being the major cause of death, this factor needs extra attention ranging from optimum pre-operative stabilisation, prophylactic pre-op or post-operative antibiotic coverage. Early identification of complications such as ventilator associated pneumonia, adult respiratory distress syndrome, metabolic acidosis and its appropriate management play a vital role in reducing the case fatality. This study also stresses the need to reduce the use of ventilator in the post-operative period and timely assessment and management of mechanical ventilated patients and to identify the effects of surgical factors in determining the outcome of mechanical ventilated patients, which will in turn help in the planning of proper management.

KEYWORDS: Post operative patients, mechanical ventilation, septicemia, types of ventilation, non-extubation, intra operative time, elective post-op ventilation